

REMARKS

Status of claims

Claims 1 to 8 have been rejected under 35 U.S.C. sec. 112, sec. 102 and/or sec. 103.

Claims 9 to 21 have been withdrawn from consideration.

Drawing requirement

The Examiner has required additional drawings.

The present application contains two figures, figs. 1 and 2. It is unclear what exactly the Examiner believes needs to be illustrated beyond these figures. Applicant submits that these figures disclose all aspects of the claimed invention, and therefore respectfully requests withdrawal of the drawing requirement expressed.

Section 112 rejections

Claim 2 was rejected under sec. 112 for confusing expression of which part is tapers.

Claim 2 has here been canceled, but its language has been inserted into claim 1. The inserted language has been amended to clarify that the media nozzle tapers.

Claim 5 was rejected under sec. 112 for lack of antecedent basis for the term "working gas nozzle". Claim 5 has been amended to depend from claim 4, and the antecedent basis now exists for the term in claim 4.

Prior art rejections

Claims 1 to 8 have been rejected as unpatentable over U.S. patent 4,162,908 to Rau, alone or in combination with Fornsel (U.S. pub. app. 2002/0179575), Edahiro (U.S. patent 4,402,720), and/or Gouskov (U.S. patent 6,535,240). Reconsideration of this rejection based on the claims as here amended is respectfully requested.

Claim 1 as revised recites a method for producing a preform from synthetic quartz glass by means of a plasma-assisted deposition process. The method comprises supplying a hydrogen-free media flow containing a glass starting material and a carrier gas to a multi-nozzle deposition burner, introducing the glass starting material by means of the deposition burner into a plasma zone wherein the glass starting material is oxidized so as to form SiO₂ particles, and depositing the SiO₂ particles on a deposition surface while being directly vitrified. The media flow is focused by means of the deposition burner towards the plasma zone, and the media flow is focused onto the plasma zone by means of a media nozzle of the deposition burner. The media nozzle tapers in the direction of the plasma zone.

This invention is not suggested by the prior art, and reconsideration of the rejection is respectfully requested.

Rau describes a typical plasma deposition process of the prior art, which is illustrated in figs. 1 and 2 of the reference. The burner has three cylindrical glass tubes 10, 11 and 12, and it emits a plasma flame. There is no detail of the glass tubes shown or described, and especially no tapering of any tube shown or suggested.

Fornsel shows a plasma nozzle for treating surfaces, especially for the pre-treatment of plastic surfaces. See Abstract, lines 1 to 3. The plasma nozzle is not used in a deposition burner,

and there is no media flow containing a glass starting material, as required by claim 1, and as a consequence, no media nozzle focusing such a media flow. The shape of the nozzle results in a fan-shaped plasma jet (see Fornsel, Para. 0006, and Para. 0021), but does not suggest a focused media flow as claimed.

Furthermore, nothing in the reference suggests that one of skill in the art try to use of the nozzle to focus media flow into a plasma zone in which the glass starting material is oxidized so as to form SiO₂ particles, as claim 1 requires. Fornsel therefore cannot be properly combined with the plasma deposition system of Rao to suggest focusing a media flow containing a glass starting material and a carrier gas to a plasma zone in a deposition process, as the Examiner has argued. Such an application of the nozzle of Fornsel is a complete departure from the disclosed use.

Edahiro is cited as teaching of a diffuser nozzle. Edahiro shows only a cylindrical media nozzle 43 (se Fig. 4), and does not suggest a tapered media nozzle.

Gouskov is cited only for its teaching of use of nitrogen. Gouskov also shows purely cylindrical no-tapering nozzles. See e.g. Gouskov, Fig. 2.

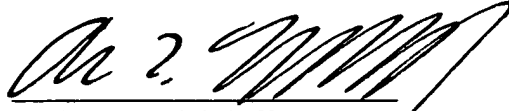
Claim 1 as amended therefore distinguishes over the prior art, and withdrawal of the rejection thereof is respectfully requested.

Dependent claims 3 to 8 depend directly or indirectly from claim 1, and therefore distinguish therewith over the prior art.

All claims having been shown to distinguish over the prior art in structure, function and result, formal allowance is respectfully solicited.

Should any questions arise, the Patent Office is invited to telephone attorney for applicants at 212-490-3285.

Respectfully submitted,



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